The National Design Factory, Indianapolis, Indiana
A Guide for the Sustainable Design Assistance Team

An Honors Thesis (HONRS 499)

by

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May 2009

Expected Date of Graduation

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Abstract

This project provides an analysis of a neighborhood near downtown Indianapolis which is part of a study area for an American Institute of Architects Sustainable Design Assistance Team.

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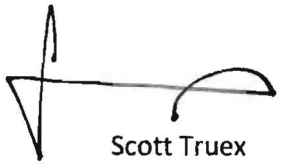


Scott Truex

Artist's Statement and Acknowledgements

When I submitted the proposal for this creative project, I was looking for a way to expand my knowledge and research developed during my final urban planning studio this fall. This studio was centered on the analysis and redevelopment of a neighborhood near Downtown Indianapolis. A key part of the project was the inclusion of and accommodation for a light rail transit line from Downtown Indy northeast to Noblesville and the impacts it would have on the future of the area.

Following the completion of this studio, I learned that the area focused on in my own studio project was selected by the American Institute of Architects as a study area for a Sustainable Design Assistance Team (SDAT). In the fall, the team will spend three days visiting and studying the area. They will compile their findings and will submit a report later to the City of Indianapolis. Because the team's time in the study is so brief, I decided to compile a guide to help the team familiarize themselves with the issues facing the area.

Like many projects, my final result evolved from my original plan. I realized that the SDAT was already familiar with most of the issues I'd discovered, simply because they are outlined in detail in the project proposal. I also became much more interested in the SDAT process and the impact it has had in other areas. Consequently, this guide is based much more on the precedence of other SDAT communities rather than the findings of my final studio project. In order to be accessible for the team as well as steering committee and community members, the guide has been posted online at:

http://nationaldesignfactory.wetpaint.com/

Although this was not my original plan for the project, I am very happy with the evolution. I learned a great deal about not only the SDAT process, but the way that other, comparable communities have approached the idea of sustainability. A survey helped provide personal insight into some of the issues and the impacts of public education and participation. Overall, it really helped me develop my own personal perspective as a planner.

Throughout the entire research process, my advisor, Scott Truex, helped me tremendously. Not only did he provide me with additional resources, but he helped guide my thinking and encouraged me to look deeper into a number of issues. I must also acknowledge the members of the comparable communities and SDATs that responded to my survey. They include: Albert Elias, AICP; Celeste Novak, AIA, LEED AP; Kim Cooper-Hart, AICP; and Alan Mallach. These professionals took the time to help me with this project, and their insights are greatly appreciated.

Background

Proposal and Objectives

In November 2008, a proposal was submitted to the AIA Sustainable Design Assistance Team (SDAT) program for their support with the Indianapolis Smart Growth Redevelopment District. This study area is centered at the intersection of 22nd Street and the Monon Greenway, the location of a proposed multimodal transit station. It includes portions of the Citizens-King Park and Martindale-Brightwood neighborhoods.

The objectives for the SDAT project, as stated in the proposal, follow:

> *"The SDAT process swill kick-start the discussion in Indianapolis about how transit investments can best be used to revitalize neighborhoods, reclaim contaminated and abandoned properties, promote compact, pedestrian-oriented environments, alleviate sprawl and congestion, and promote economic opportunity at the individual as well as regional level. It will do this by creating a vision plan to address these issues, a master plan demonstrating innovative ways in which this vision can be implemented in a specific neighborhood as called for by Recommendation 24 of the Indianapolis Green Commission, and a model development code that upgrades current development controls to promote such development."*

Key Issues

Location: Two miles northeast of Downtown at the intersection of the Monon Rail-Trail and 22nd Street.

Neighborhoods: Citizens-Kings Park and Martindale-Brightwood

Population: Study Area--Just less than 10,000 residents
Indianapolis MSA—1.7 million

Economics: Study Area Median Household Income—less than $21,000
Indianapolis Median Household Income--$42,700

Study Area Percentage in Poverty—38.5%
Indianapolis Percentage in Poverty—14.1%

Study Area Unemployment—14.4%
Indianapolis Unemployment—5.4%

Businesses: 749 establishments
60% have fewer than 4 employees

Employees: 6,410

Abandoned Homes: 275 (2003 inventory)

Study Area Photos

Northwest Corner of National Design Factory
Intersection of 22nd Street and Monon Trail

Southwest Corner of National Design Factory

Northeast Corner of National Design Factory
(The Project School)

22nd Street Corridor (Looking East)

Monon Rail-Trail

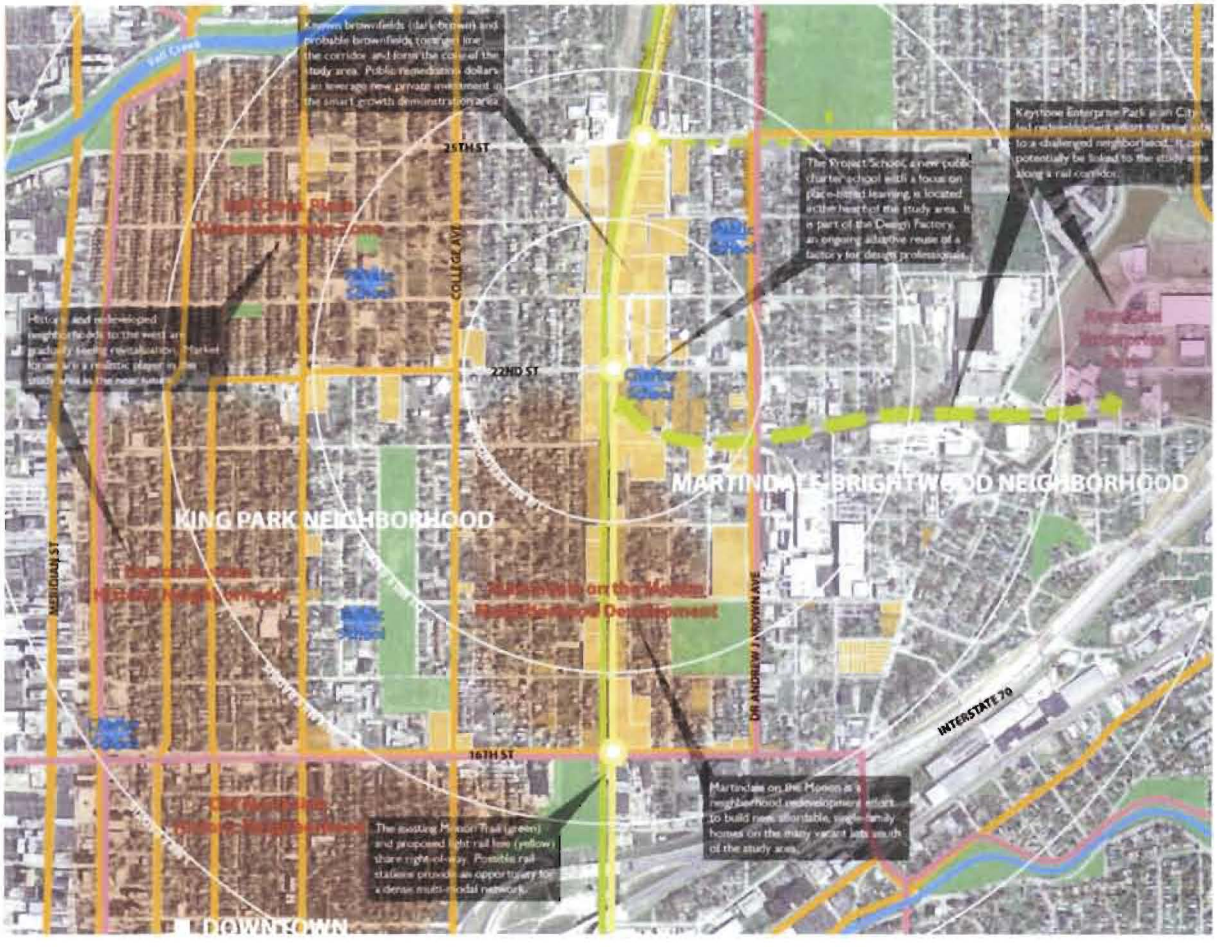
Brownfield industrial sites parallel to rail

Neighborhood Redevelopment Efforts

Fall Creek Place Streetscape Improvements

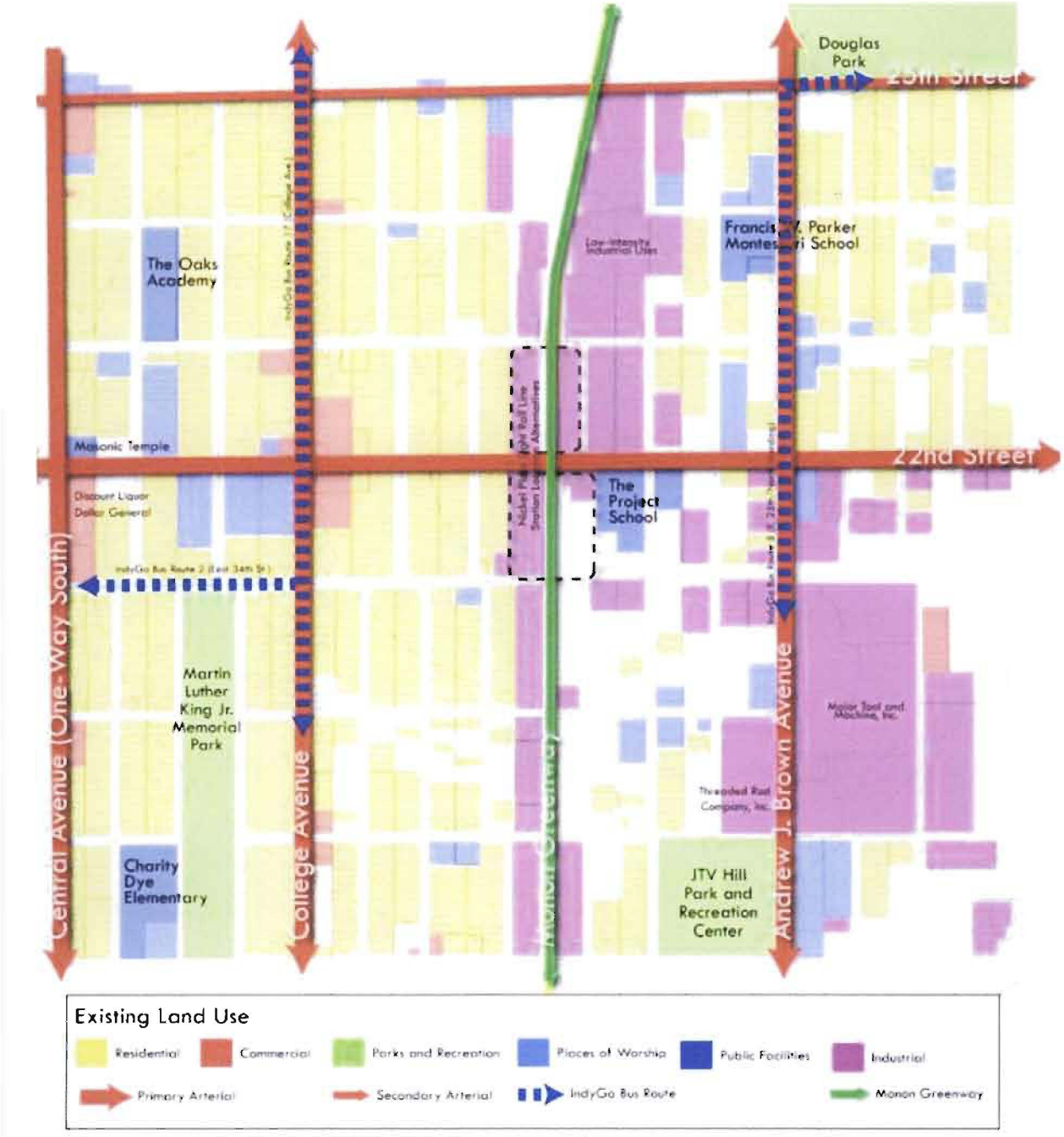
Study Area Maps

Key Issues Map:



This map (*from the SDAT Proposal*) highlights the issues focused on in the SDAT Proposal.

Existing Land Use Map:



The Existing Land Use Map highlights the single-family residential areas and extensive industrial uses that flank the Monon Trail and Proposed Light-Rail corridor. Major transportation corridors are highlighted by red arrows and bus routes are represented by the dashed blue lines.

SDAT Project

The following sections are intended to serve as a guide for the Indianapolis Smart Growth Redevelopment District Sustainable Design Assistance Team (SDAT) project.

Comparable Communities

To gain a better understanding of the SDAT process and results, three previous SDAT communities have been studied. These communities were chosen based on similar issues and populations. They include:

- Tucson, Arizona
- Albany, New York
- Oklahoma City, Oklahoma

Tucson, Arizona: SDAT 2007

Population: 1 million

> *"Tucson is on the same sun belt as Baghdad, a city at war, and Shanghai, a city that is becoming the greenest on the planet. Climate cannot be equated merely with latitude, and the sun's path only defines a small portion of the sustainability issues facing American cities."*

The SDAT initiative in Tucson was spurred by the rapid population growth in the city and the need for sustainable growth. The SDAT team discovered a city that was already implementing a number of sustainable strategies, but had the potential for environmental and social threats due to climate change. The SDAT initiative was hoped to reinforce the existing sustainability work and to help guide changes and patterns in the future.

Tucson's green efforts before the SDAT included the creation of a department and staff to manage opportunities for sustainability education, design, and planning. Conservation plans had also already been created to help direct future growth and LEED certified building practices were already being used. Citizen and neighborhood participation and awareness about environmental issues had also begun and helped with the success of the SDAT process.
The following sections compose the final SDAT report submitted to the City of Tucson. They include:

- Renewable energy and green resources
- Water resources
- Transportation
- Regional design
- Neighborhood infill
- Downtown

The most applicable section to the Indianapolis project is the Neighborhood Infill section. Although it may seem that the transportation and water, renewable, and green resources may provide parallel recommendations, unfortunately these sections are not quite comparable. The transportation section presents suggestions for current street and road design and infrastructure, lacking a detailed focus on public or light rail transportation. These suggestions may be considered for the Indianapolis project, but multimodal transit (primarily bike, bus, and train) will be the principal goal of the redevelopment area. Because the climate in Arizona is much different than that of Indiana, few of the resources recommendations presented are directly transferable. The concepts of solar and geothermal energy, biofuels, and water conservation, however, can be refined and overlaid for nearly every city.

Neighborhood Infill:

The current state of the neighborhoods surrounding the 22nd Street Transit station provides ample opportunity for infill housing development. There are a number of vacant, decaying housing units as well as vacant land within the residential areas.

Much like Indianapolis, Tucson has experienced growth at its perimeter, not its center. As sustainability is incorporated into development patterns, this growth should be fostered within currently developed neighborhoods. The Tucson SDAT presents sustainability as an act of "civic regionalism... Success stems from strong leadership and grassroots activism that leads to neighborhood sustainability." This is achieved through six goals, summarized below:

- *Build neighborhood empowerment and capacity.* To successfully achieve grassroots activism, citizens and neighborhood associations must have the ability to create and implement green initiatives. Specific neighborhood comprehensive plans, a citywide neighborhood council, a planning challenge fund and neighborhood pride will help meet this goal. An additional suggestion, and one of the most interesting, is a community design center: a place for architects, planners, and other designers to engage the community outside traditional project boundaries. In the Tucson SDAT, it is suggested to coordinate with the University of Arizona for some of the neighborhood planning projects. Ball State's Indianapolis Center, as well as other higher education institutions may be candidates for contributions to a design center placed within the Redevelopment District.

- *Encourage economic and social integration.* Economic and ethnic diversity are key components of neighborhood sustainability. Inclusionary housing policy and a range of housing stock will help achieve the economic aspect of sustainability. Neighborhood festivals and events and a youth advisory council are suggestions for social sustainability.

- *Build Green.* Buildings are responsible for the use of nearly 50% of energy produced. By incorporating green technologies and practices, this figure can be lowered, reducing the overall energy consumption. To promote these practices, the city should incorporate a green building ordinance into the current regulations. Like the Indianapolis study area, a majority of the housing stock was built before environmental considerations were a priority. Consequently, a handbook, subsidies, and a housing trust fund should be created to help foster the implementation of retrofitting and new neighborhood projects.

- *Reduce automobile dependence.* One of the most interesting aspects of neighborhood sustainability is that of automobile independence. Most citizens will not be willing to give up their personal vehicles in the immediate future, but the provision of alternative transportation options will promote this transition. Neighborhood bike networks, car-share fleets, electric vehicles, and community-based transportation service will all help quicken the transitional process.

- *Promote Walkability.* The urban fabric of city neighborhoods is composed of diversity and density that is often lacking in newly developed suburban neighborhoods. In Tucson's case, however, many of the characteristics that make an area walkable and pedestrian friendly, are now illegal according to the zoning code. The SDAT report strongly recommends that overlay zones should be created or the zoning code should be altered to reflect the lot line, seating, and

building façade requirements for a successful urban neighborhood. The zoning code should be much more user friendly with the additions of graphics and appendices, and should place focus on design standards for buildings, fencing, walls, and other ingredients that will contribute to the on-street experience.

- *Grow up, not just out.* As the city grows, new development should be encouraged within previously developed areas rather than at the periphery. The existing quality of life and character of the neighborhood, however, should not be compromised. In Tucson, the city is built on an underlying 1-mile grid. Within each 1-mile section, the residential core provides the standards in which many residents have already invested. Consequently, as the density increase, building up should occur at the primary corridor streets, rather than within the residential core. Transition spaces will be very important and a visual model should be put on public display. Additionally, and probably the most applicable element to the Indianapolis Redevelopment District, development should be built with the anticipation of transit. Transit corridors should foster the highest densities in order to grow ridership and support walkability and local service access.

Moving Forward:

The conclusion of the SDAT report presents the team's immediate recommendations for implementation of the plan. The city planning department must be adamant about following the path that the report has laid and must create an implementation framework. Outlining the planning process and educating the community about the issues at hand will lead to the success of the working document. The citizens must have a voice within their city, and ongoing change and implementation should serve as a gauge for achievement.

The final SDAT report for the City of Tucson can be found at:
http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aias078092.pdf

Albany, New York: SDAT 2007

Population: .95 million

"How can people make better connections, complement each other's efforts, and make the most of their resources and energy?"

The city of Albany is located on the Hudson River and is the state capitol of New York. Originally founded in the early 1600s, Albany has a rich history and a strong urban fabric and historic architecture to match. The State of New York provides 30,000 jobs within the city of Albany, but unfortunately the city is facing below-average median household incomes, high vacancy rates, a renter-to-owner ratio greater than one, and continuing problems of poverty, aging building stock, and crime. In January of 2007, Albany submitted a proposal to the AIA SDAT program, asking for assistance in addressing these issues. The following sections are included in the final SDAT report:

- Market Context
- Downtown Strategies
- Neighborhood Strategies
- Environment and Open Space
- Transportation
- Institutional Relationships
- Planning for the Future

Neighborhood Strategies:

Much like Indianapolis, Albany has a great number of neighborhoods, ranging from areas inundated with vacancies and abandoned properties to well-maintained areas with well-kept homes and tree lined streets. As in many cities, the inner neighborhoods seem to be those suffering the most. The final SDAT report outlines a seven-step strategy for revitalizing these areas:

- "Implement a coordinated, multifaceted abandoned-property strategy, including the creation of a land bank in partnership with the housing authority and county
- Prioritize preservation and reuse of existing buildings
- Maximize historic assets
- Provide incentives for rehabilitation of vacant buildings for home ownership
- Market the target neighborhoods
- Maintain and enhance community policing strategies
- Build the human capital of neighborhood residents to foster equitable revitalization"

Because the team could not concentrate on each and every step of this strategy, focus was placed on the abandoned property strategy. Within this strategy, owners are required to bear the costs of their actions or inactions. This creates accountability for dilapidated buildings and substandard units. The city currently has a Vacant Building Registry Ordinance that needs to be amended to include graduated fees and charges for inspections, police and fire calls, and other expenses incurred by the vacant

property. In order to truly inspire motivation for maintenance and upkeep, this ordinance must be readily enforced and supported by the general population.

The city should actively pursue reuse and rehabilitation efforts, requiring the actions of owners when possible, and gaining control when inaction occurs. A land bank created by the city Housing Authority will create the means for the city to maintain, demolish, or stabilize decaying properties. The property-tax and foreclosure regulations must be altered to insure that all properties enter into the land bank. This change will not be immediate due to current city-county relations, but this amendment must occur if the city is to gain adequate control of vacant and abandoned properties. Additionally, property owners unable to maintain their properties should be encouraged to donate them to the land bank.

Incentives should also be created to encourage reuse of properties within the land bank. This strategy "should be explicitly designed to foster increased homeownership and greater economic diversity within the target neighborhoods." An average incentive of $25,000 to $30,000 for property rehabilitation, homeownership will be encouraged for middle-income families, in turn improving area property values, the municipal tax base, and neighborhood stability. Financing for this program can be generated from a number of sources, including local funds, general obligation bond issues, historic preservation tax credits, and state Community Development Initiatives. In the long run, the savings experienced by the city will outweigh the rehabilitation costs.

As experienced in many neighborhood revitalization project, gentrification will continue to be an issue. Economically diverse neighborhoods should be the ultimate goal and low-income residents should not be driven to relocate. Efforts should be taken to help improve current residents' income status, and those residents with rising income should be encouraged to stay within the neighborhood.

Transportation:

Although this section only mentions a light-rail transit line, there are a number of suggestions than can be applied to the Indianapolis project. They include:

- Ridership will increase with improved comfort levels and predictability. These can be enhanced by stops and shelters with adequate, real-time service information as well as other rider amenities.
- Design, implementation, and marketing will help promote regional commuter services and the public transit system as a whole.
- An intermodal hub connecting BRT, LRT, Amtrak, and special event transportation can increase convenience and ridership.
- A transit-oriented development zoning designation promoting density and mixed-use development should be created and applied around major transit stations.

The final SDAT report for the City of Albany can be found at:
http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aias078088.pdf

Oklahoma City, Oklahoma: SDAT 2005

Population: 1.25 Million

"On the surface, change...can be easily obtained through the redesign of a road; however, the more intensive challenge is to provide an opportunity to change its inhabitants' way of thinking."

Oklahoma City sprawls over an area of 625 square miles. The city has a variety of industrial and commercial resources, higher education institutions, and is committed to the culture and health of the population, demonstrated by the new healthcare facilities, high schools, and corporate centers, and the new American Indian Cultural Center. Oklahoma City submitted their SDAT proposal to the AIA in March of 2005. Plagued by corridor connectivity issues and brownfields, the city requested assistance in the redevelopment of these specific areas. The final SDAT report provided suggestions and assistance with the following issues:

- Land use and development
- Brownfields
- Transportation
- Water Resources
- Ecological Economics
- Environmental Justice

As one of the most comparable sections of the SDAT plan, the Brownfields chapter will be summarized below to provide suggestions for the Indianapolis project. Additionally, there are key concepts from the other sections that should be considered as well.

Brownfields:

The redevelopment of brownfield sites can create unique opportunities for economically efficient, complementary design. Existing infrastructure can be reused and new development can be focused within the city center, rather than sprawling at the edges.

The final SDAT report provides suggestions for the preparation and process of brownfield redevelopment. Knowledge of the current site conditions and funding opportunities will prove to be vital aspects of the process. Contact with state officials to gain information about state and federal programs may expose unknown resources for environmental mitigation and site-cleanup.

The Process:

- Phase I: The first phase of the brownfield redevelopment process is an analysis of historical uses of the site. Available records are examined to determine potential contaminants of the surface soil and ground water.
- Phase II: Field data is used to fill in the gaps of the historical information. Professional review of the site will use up-to-date processes and equipment for assessment and clean-up.

- Phase III: A risk assessment may be included depending on the severity and type of contamination. This will help outline clean-up standards for future site uses. As future site uses are determined, a "cradle to grave" attitude should be adopted. Complementary industries can increase efficiency by using waste from an existing industry, such as scrap metal, for the creation of new valuable resources.

Water Resources:

The status of the contaminated brownfield sites poses significant threats to the groundwater quality and the runoff from the site. Because the Indianapolis Redevelopment area is facing stormwater drainage issues, some of the Oklahoma City recommendations should be considered.

- Stormwater discharge rates should be lower than they would be if the site were undeveloped. This will prevent concentrated infiltration from the contaminated sites.
- An area stormwater management plan should implement the use of vegetated filter strips and swales and should direct water away from the contaminated brownfield sites.
- Aesthetic landscaping materials should have a low water demand and should double as water filtration systems.
- In some cases, phytoremediation should explore the use of plants and other vegetation to assist in the brownfield site clean-ups.

Environmental Justice:

The concept of environmental justice introduces the idea that every citizen "has a right to live in an environment with clean air, clean land, and clean water." Historically, neighborhoods with low incomes and high minority populations have been subject to higher concentrations of hazardous waste than other population sects. Community health advocacy was included in the Oklahoma City SDAT project and should be considered in the Indianapolis Redevelopment District. In addition to industrial controls, measures should be taken to prevent obesity via walkability and park and recreation provisions.

Moving Forward:

As is standard for final SDAT reports, immediate recommendations are provided for Oklahoma City. Like any plan, commitment from the residents, local businesses, and government are key ingredients for success. Because the SDAT project for Oklahoma focused on a single development area, much like the Indianapolis project, there are four approaches for pursuing area redevelopment:

- *Optimize Economic Redevelopment*. Promoting public/private partnerships in addition to public funding will help the redevelopment are to flourish. Zoning changes, infrastructure, and façade improvement will help promote private investment in the area as well.

- *Lead Environmental Change*. Oklahoma City is a leader in oil and energy resources, giving it a unique opportunity to implement sustainable and green practices. This identity transition will give Oklahoma City prominence in the future of development practices.

- *Recognize the Importance of Place*. Its location and deep history provide Oklahoma City with an exceptional identity. This should be exploited with the use of public art and other similar projects throughout the city.

- *Affirm Connections in the Community and Leave a Legacy*. Empowerment of youth and minority populations to redevelop their neighborhoods will create opportunities for new wealth, cultural, and economic possibilities. Connectivity to transportation, the environment, the river, and entertainment will help strengthen the bonds between community members.

The final SDAT report for Oklahoma City can be found at:
http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aias078168.pdf

Survey Summary and Recommendations

In an attempt to gain a better understanding of the SDAT process, a survey was sent to members of the comparable community SDATs and the planning departments. The following questions were included in the SDAT survey:

- While working with _____, what were the most critical issues facing the community? What were the strongest assets?
- Did you face any obstacles during the SDAT process? What could have remedied the situation? Could this have been avoided?
- Within the community, who was the most active? The planning department, stakeholders, citizens?
- Would you change anything about your experience in _____? How could it have been improved?
- Have you followed the implementation of the SDAT plan for _____? Did you have any predictions about the ownership/implementation? Have these predictions been proven correct.

It was the intent of this survey to develop an approach for Indianapolis to create an ideal work environment for the SDAT team. Ideally, the survey results will help guide the SDAT process for the city.

To better understand the attitude and conditions of the comparison city, the planning officials were sent the following survey:

- What prompted the SDAT Application/process? What were the primary issues the city was facing?
- Who were the most involved members of the community before, during and after the SDAT process? How has this group evolved and changed?
- Has the SDAT implementation been led primarily by the citizens, the local government, or a combination so the two?
- How did the City of _____ approach public education? Was it geared for a specific group (stakeholder, participant, etc.) or were there broader education components (sustainability, smart growth, transit, etc.)?
- What role has the planning department played in the Plan implementation? Have there been changes to the zoning and comprehensive plans? Any public/private development projects?
- What was the public's reaction to the SDAT process and plan? Were they involved, apathetic, against it?
- Have there been any follow-up documents or publicity since the SDAT plan?

Planning Department Results:

Unfortunately, contact attempts with the City of Albany were not successful. Consequently, the following survey results will be based on Tucson and Oklahoma City.

Although the projects in both cities were prompted by current unsustainable development, Tucson and Oklahoma City both had very different approaches to the project. This variation in approach has seemed to directly impact the implementation.

Initiation:

In Tucson, the SDAT was prompted by the local AIA chapter and the city administration. The green and sustainable initiatives already in place encouraged design professionals, environmental organizations, planners, neighborhood leaders, business leaders and elected officials to be the most active participants throughout the entire process. Following the final SDAT report, many of these participants remained active, pursuing implementation via alternative process and organizations.

In Oklahoma City, the SDAT was initiated and managed almost entirely by the planning department. The study area was determined by the planning staff and surrounding community and property owners within the area were contacted by the department to gain initial support for the project. Following the final report, completely nearly five years ago, property owners have not pursued implementation of the suggestions.

Public Education:

Tucson and OKC also have much different approaches to public education. Oklahoma City's approach since the initial SDAT has consisted of a website and a few presentations. Sustainable development is obviously the underlying theme for these. Tucson, on the other hand, has taken a limited, but broader approach to public education. Specific city projects, such as the Modern Street Car Project, land Use Code amendments, and downtown revitalization efforts have been the focus of this education. Again, sustainability and smart growth are key messages throughout each of these initiatives.

Implementation:

Since the SDAT, Tucson has revised, reorganized, and reformatted the Land Use Code according to the suggestions in the final report. The Tucson General Plan will be updated by 2011 to include sustainability and smart growth issues. Public/private projects showcasing sustainability have been initiated, but are on hold due to economic conditions.

Oklahoma City has not made any revisions to any public regulations driven by the results of the SDAT process. A general obligation bond, however, was passed last year to help finance the streetscape improvements focused on in the SDAT plan.

In both cities, new private development interest has been spurred by the in depth analysis provided in the SDAT plans.

SDAT Leader Results:

Inherent Challenges:

According to the surveys, challenges inherent to the process create the greatest obstacles of any SDAT project. Team members provide their recommendations with only a limited knowledge of the study area and the constraints of a three day study period. That being said, information regarding local planning practices, current projects, and any information that can broaden the team's familiarity with the issues at hand will help the process.

Education and Communication:

Communication between the team, the local planning department, and other stakeholders is a key to the success of the SDAT project. Local buy-in and enthusiasm for the project helps the team become excited and encourages the potential for project implementation. Additionally, public knowledge about the SDAT process helps confusion and conflict that may arise. As state in one response, "Communities should know that they do not control the overview of their goals which might find a negative issue which they do not want to work with." In one of the cities, the team approached an issue that the planning department did not agree with. This caused direct conflict during a meeting, but also opened doors for new discussion.

Stakeholders:

The survey results also reveal unsaid issues not mentioned in any of the reports. A theme from all three cities is that of under-representation and racism toward minority populations. These populations are key stakeholders in many redevelopment and revitalizations areas and should be empowered during and following the SDAT process. Additionally, defragmentation of governmental and decision-making processes and an absentee planning department hindered the SDAT projects.

Implementation:

Because the study period is so short, implementation of the suggestions is not always addressed adequately. According to one team leader, "We often leave with great visions, drawings, and cool ideas, but the hard work of an implementation plan is often not addressed. We need resources to bring to the table, sample codes, etc." Land Use regulations, zoning codes, and comprehensive plans are all helpful in the development of recommendations for the SDAT project area.